

KUNDENDIENST



Graetz

S E R V I C E

MANUAL

Profi 310

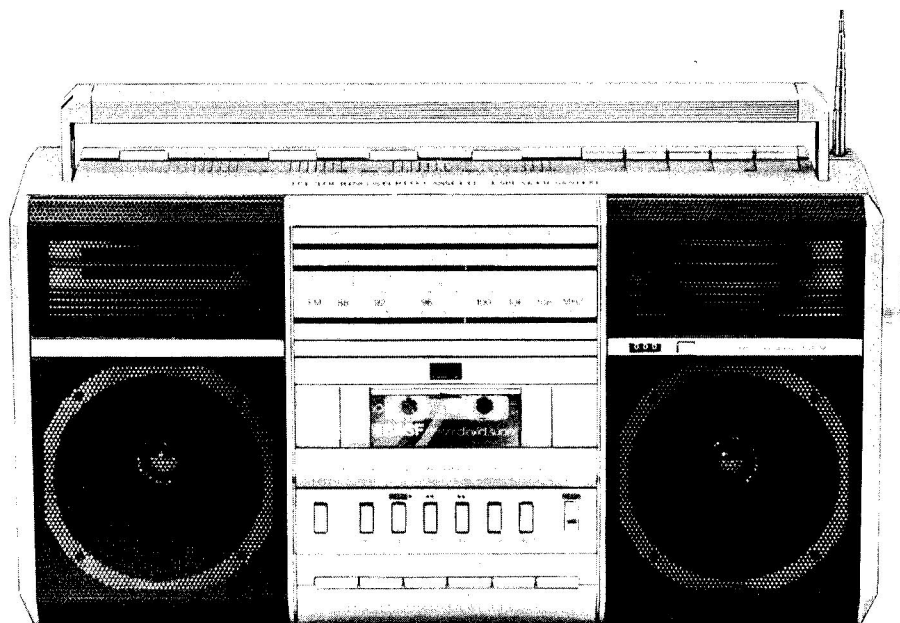
Touring 220 S

Touring 220 F

RC

118

1983



Bei Reparaturen gültige Sicherheitsvorschriften beachten!



IC 101	KB 4419 A	3771 43 76
IC 102	TA 7343 P	3771 43 75
I 401, 601	TA 7137 P	3763 14 59
IC 901	TA 7232	3771 43 73
IC 902	M 51144	3771 43 74



Q 101	BF 254	3612 12 35
Q 102, 103	ED 1502 B	3612 41 25
Q 105	ED 1502 A	3612 41 26
Q 106...109, 111...115, 401...403, 407, 601...603, 607, 903, 904	BC 238 B	3614 01 61
Q 110	BC 308 B	3614 29 52
Q 302	2 SN 5551	3614 49 25
Q 301, 801, 802	BD 135	3616 12 29
Q 404, 604	MPS 9630 H	3612 35 62
Q 406, 606	BC 239 C	3614 18 65
Q 605	BC 337-40	3614 41 05



D 101	ITT 410 K	3656 20 40
D 102, 112, 114, 117, 121, 402, 602	1 N 60	3662 08 01
D 103, 110, 111, 113, 115, 116, 118, 119, 120, 401, 601, 901, 903	1 N 4148	3656 08 10
D 104, 109	LED	3681 16 10
D 105, 106	LED	3681 11 77
D 107, 108, 301, 902	LED	3681 16 09
D 302	1 N 4001	3657 11 05
D 303	ZTE	3653 15 10
D 801		3674 01 55
D 802	ZD 9,1	3653 05 01
D 803	ZPD 6,8	3653 17 26



R 801, 805	4,7	1/4 W	3151 81 86
R 144	5 k		3111 80 32
R 157, 163, 318, 319	100 k		3111 80 30
R 441, 641, 439, 639	100 k		3118 90 51
R 444, 644	100 k		3118 90 50
R 501			3118 90 52



C 132, 134, 137	10 pF		3412 90 01
C 142	18,5 pF		3412 09 05
C 168	0,22 μ F	50 V	3422 08 65
C 170	0,47 μ F	50 V	3422 09 93
C 182, 183, 316, 406, 408, 425, 431, 606, 608, 618, 625, 631, 638, 705, 708, 811	1 μ F	50 V	3422 08 14
¹⁾ C 316, 705, 811	1 μ F	63 V	3422 85 28
C 916, 917	2,2 μ F	50 V	3422 85 09
C 172, 913	3,3 μ F	50 V	3422 08 61
C 148, 416, 417, 420, 616, 617, 620	4,7 μ F	50 V	3422 58 79
C 149, 185, 305, 318, 320, 402, 602, 720, 915, 920	10 μ F	16 V	3422 09 98
C 186, 905	22 μ F	16 V	3422 30 08
C 407, 607, 704, 804, 904	47 μ F	16 V	3422 30 11
C 156, 314, 701, 803, 806, 807, 901	100 μ F	10 V	3422 23 84
C 319	100 μ F	25 V	3422 86 34
C 159, 169, 179, 308, 413, 422, 613, 622, 805	220 μ F	10 V	3422 27 37 ¹⁾ 3422 85 29
¹⁾ C 412	220 μ F	10 V	3422 85 29
C 906	470 μ F	16 V	3421 09 92
C 702, 902	1000 μ F	16 V	3422 85 66
C 801	3300 μ F	25 V	3422 08 42



Bu 801	4134 02 80
JK 901	4144 80 53
AUX 301	4144 81 11
K 901, 902	4144 81 22



L 101	4543 14 65
L 102	4543 13 91
L 103	4543 95 23
L 105	4552 86 01
L 106, 120, 701, 801...805, 841, 901, 902	4543 12 69
L 107	4543 94 80
L 108	4543 94 83
L 109	4543 96 10 ¹⁾ 4543 95 03
L 111	4543 94 82
L 112	4543 96 10 ¹⁾ 4543 94 84
L 113	4543 91 16
L 114	4551 86 75 ¹⁾ 4552 90 19
L 115	4552 90 18
L 116	4552 90 20
L 117	4552 87 55
L 118, 119	4543 94 79
L 301	4543 17 14
¹⁾ L 302	4543 12 69
L 401	4543 17 13
CF 126	4552 87 60
FE 103	4654 62 07
FE 801...808	4654 60 05
¹⁾ Touring 220 F	

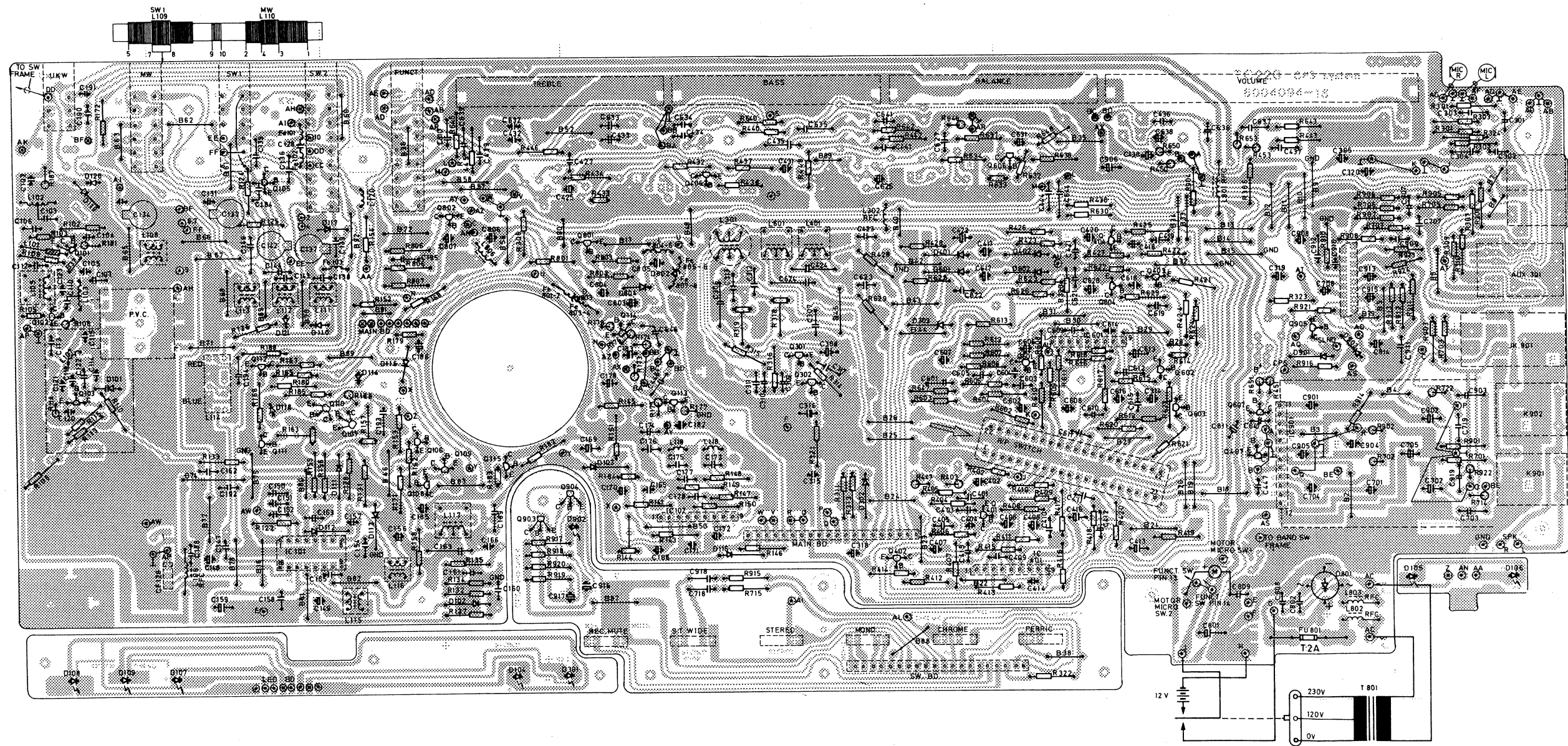
Touring 220 S

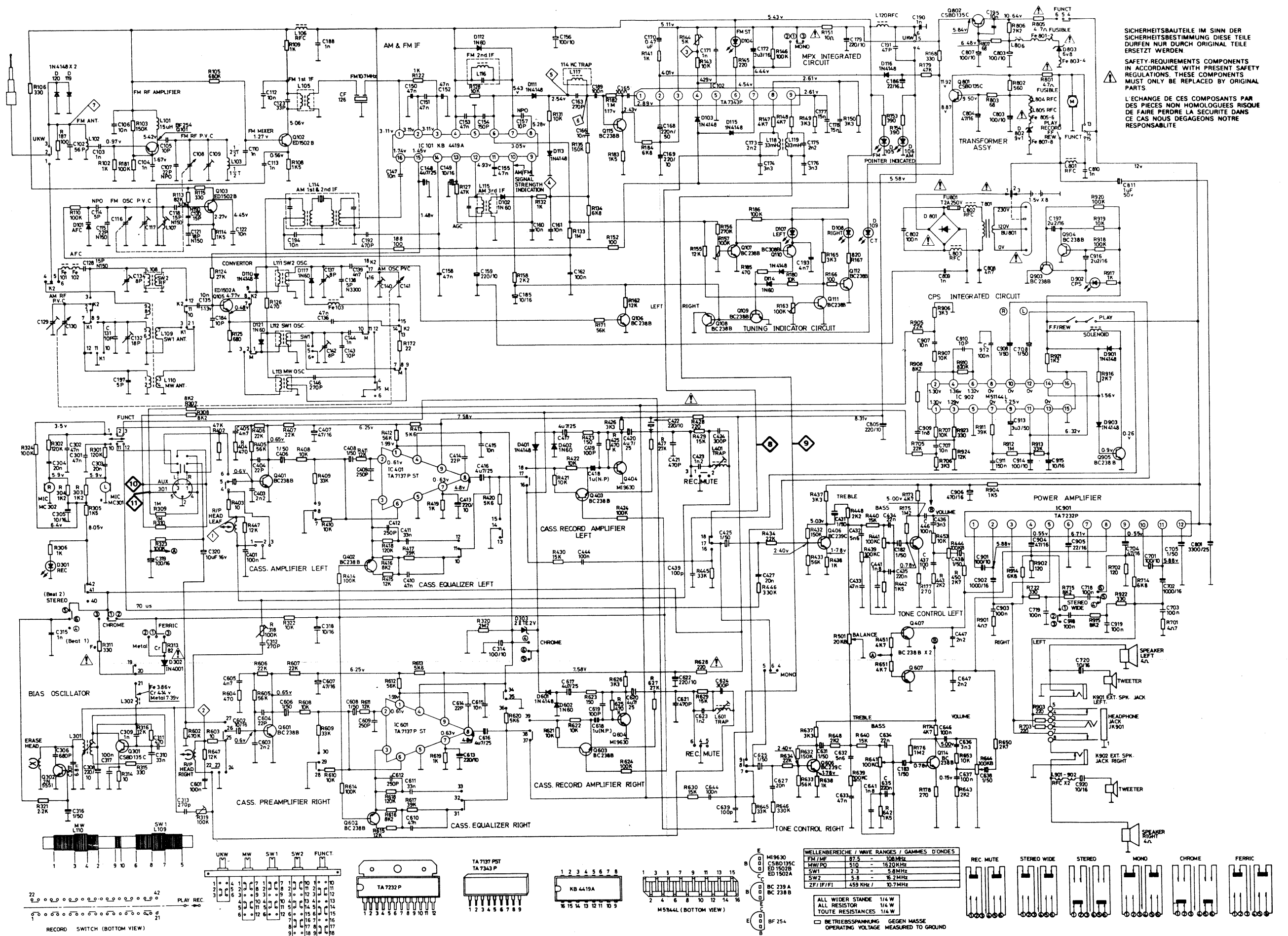


Q 101	C 1359	3614 48 32
Q 106...109, 111, 112, 115, 407, 607	BC 172 B	3614 01 18
Q 302	BC 546 B	3614 06 24
Q 405, 406, 605, 606	BC 239 C	3614 15 82
Q 404, 604	AF MJ 9630	3622 22 75
Q 905	BC 337-40	3614 41 05
D 119	1 N 60	3662 08 01
D 804...808	1 N 4148	3656 08 10

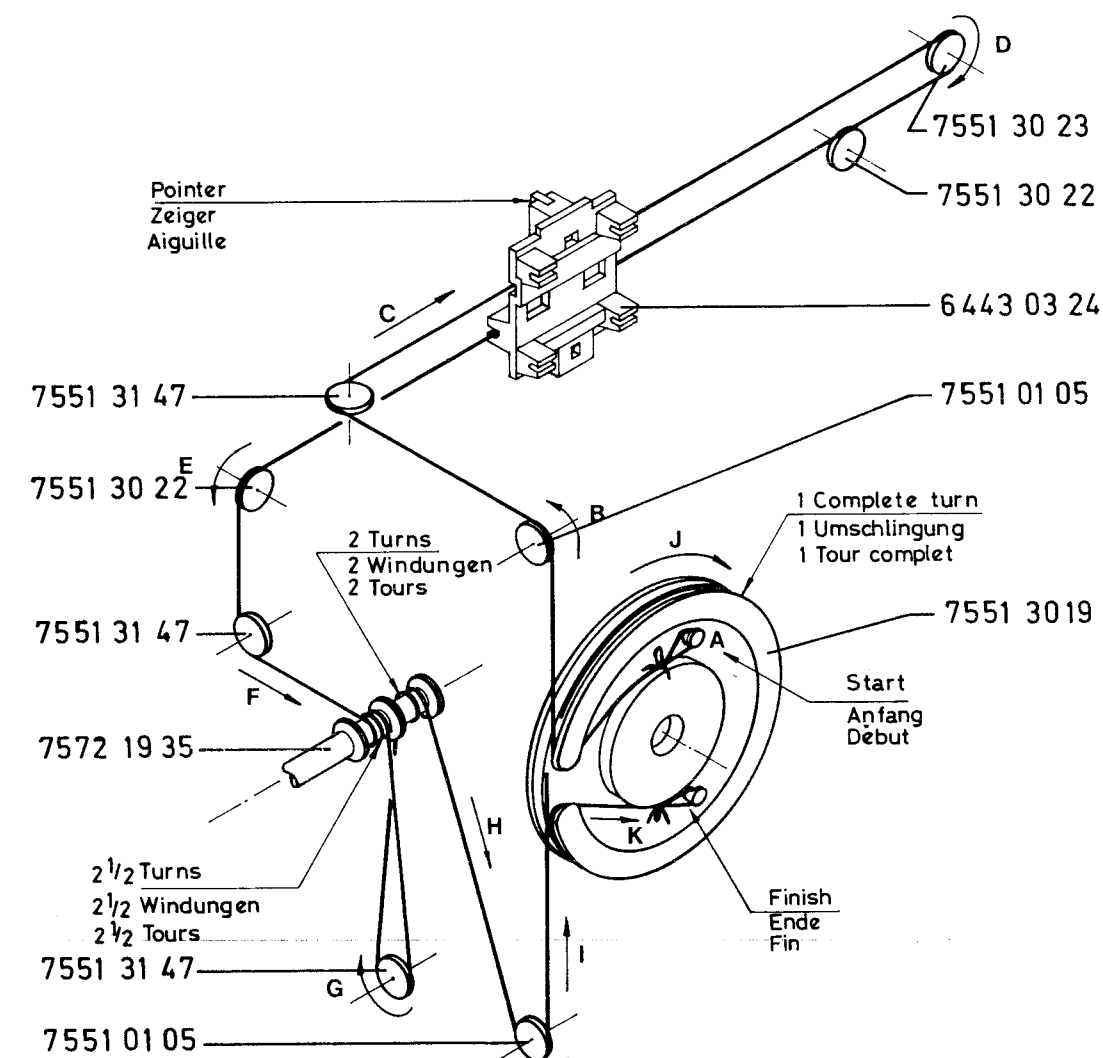


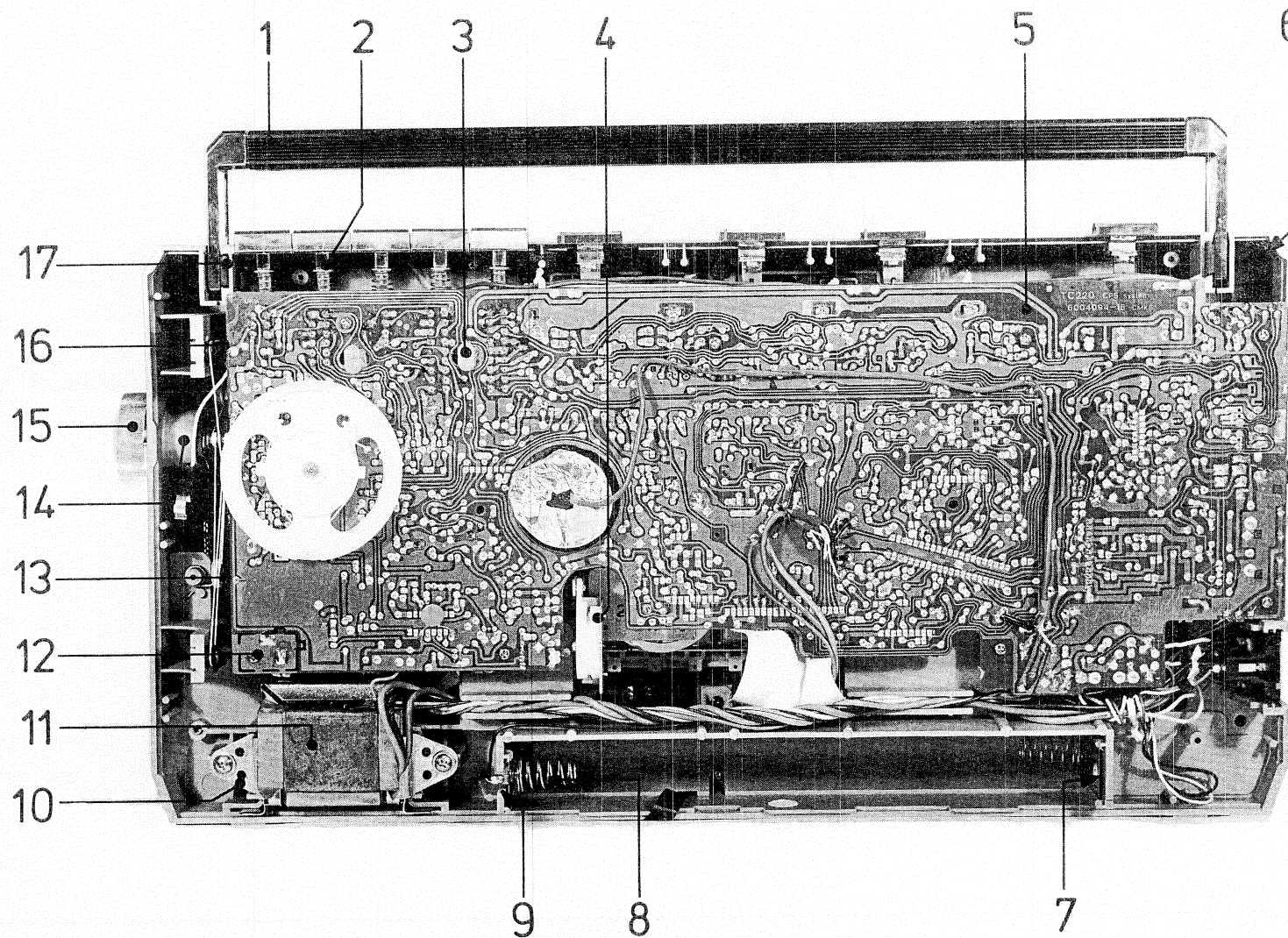
C 142	10 pF		3412 90 01
C 908	1 μ F	50 V	3422 08 14
C 916, 917	22 μ F	16 V	3422 85 33
C 319	100 μ F	25 V	3421 35 60
C 319	100 μ F	25 V	3421 35 60



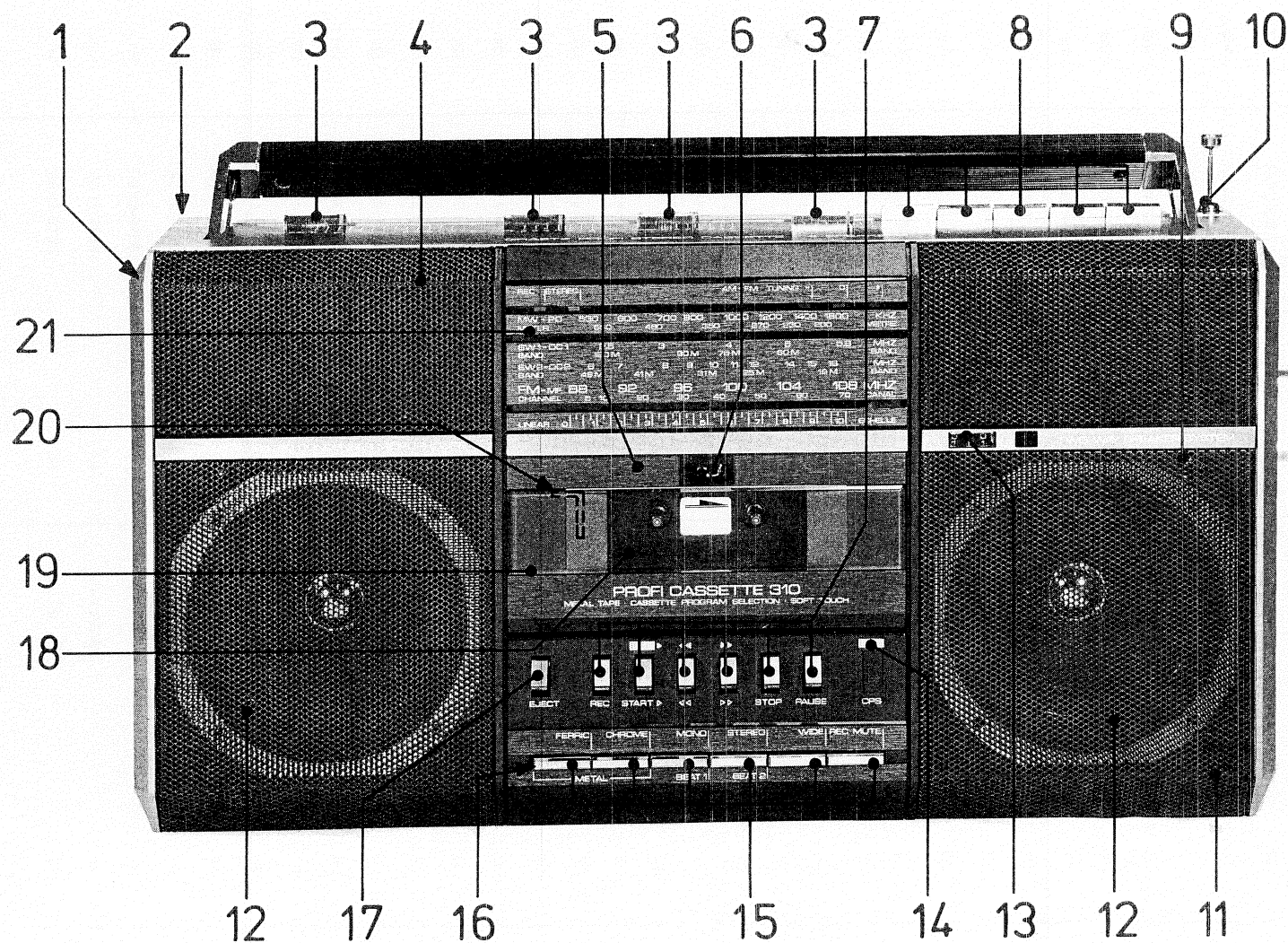


1	8318 41 81	44	8681 22 25	86	7522 02 06
2	8318 41 82	45	7358 27 58	87	8318 41 99
3	8318 41 83	46	7358 27 59	88	8681 22 35
4	8318 41 84	47	8318 41 89	89	8318 42 01
5	8318 41 85	48	7358 27 60	90	7358 27 72
6	8318 41 86	49	8318 41 90	91	7358 27 73
7	8318 41 87	50	8318 41 91	93	7651 11 09
8	7358 27 47	51	8681 22 26	94	8188 03 98
9	7358 27 48	52	7358 27 61	95	7726 59 58
10	7358 27 49	53	7358 27 62	96	7726 59 26
11	7358 27 50	54	7358 27 63	103	7858 66 04
12	8681 22 13	55	7358 27 64	104	7858 66 41
13	8681 22 14	56	8681 22 27	105	7858 66 04
14	8681 22 15	57	8681 22 28	107	7825 10 30
15	7525 09 54	58	7358 27 65	108	7858 66 07
16	7525 09 55	59	7358 27 66	109	7858 64 73
17	8681 22 16	60	8681 22 29	110	7858 65 32
18	8681 22 17	61	7358 27 67	111	7858 60 38
19	7358 27 51	62	7538 33 13	112	7858 64 46
20	7358 27 52	63	7358 27 68	113	7858 64 82
21	8318 41 88	64	7358 27 69	114	7858 65 62
22	8867 09 24	65	8681 22 30	115	7858 63 56
23	8681 22 18	66	7358 27 70	116	7858 60 42
24	7525 09 56	67	8318 41 92	117	7727 07 54
25	7358 27 53	68	7538 33 14	118	7727 07 51
26	8681 22 19	69	7518 40 70	119	7727 07 65
27	4188 01 70	70	7618 41 73	120	4335 91 62
28	7525 09 57	71	7618 41 74	121	4337 91 36
29	8681 22 20	72	8318 41 93	122	4432 91 59
30	8681 22 21	73	7638 07 41	123	6467 16 66
32	7358 27 54	74	8318 41 94	124	8318 42 02
33	7548 41 46	75	7578 05 21	125	7618 41 75
34	7358 27 55	76	8681 22 31	126	8318 42 03
35	8681 22 22	77	8681 22 32	127	8318 42 04
36	8681 22 23	78	7358 27 71	136	8318 42 05
37	7548 41 47	79	8318 41 95	137	8318 42 06
38	7358 27 56	80	8318 41 96	138	4671 90 05
39	6253 41 19	81	8681 22 33	139	7358 27 74
40	6253 41 20	82	8681 22 34	140	7578 05 22
41	7358 27 57	83	8318 41 97	141	7858 65 32
42	7548 41 48	84	6568 11 30	142	4188 01 71
43	8681 22 24	85	8318 41 98	143	4188 01 72





- | | |
|---|--|
| 1 = Griff
Handle
Portant | 6341 49 12
1) 6341 47 91 |
| 2 = Tastatur
Push button assy.
Clavier | 4112 94 26 |
| 3 = Halter
Holder
Support | 8681 22 59 |
| 4 = Recorder
Sicherungshalter
Fuse holder
Porte-fusible | 5863 11 19
4157 04 51 |
| 5 = Leiterplatte
Printed board
Platine imprimee | 4375 20 02
6913 32 15
1) 6913 33 65 |
| 6 = Gehäusemittelteil
Cabinet center part
Boitier de Milieu | 6136 09 39
2) 6136 08 88
1) 6136 09 54 |
| 7 = Batteriekontakt
Battery contact
Contact des Piles | 7348 12 86 |
| 8 = Feder
Spring
Ressort | 7358 27 40 |
| 9 = Batteriekontakt
Battery contact
Contact des Piles | 7348 12 69 |
| 10 = Winkel
Bracket
Equerre | 8318 29 80 |
| 11 = Netztrafo
Mains transformer
Transformateur de Reseau | 4511 32 90
1) 4511 32 83 |
| 12 = Batteriedeckel
Battery lid
Couvercle des Piles | 6136 09 42
1) 6136 08 53 |
| 12 = Winkel
Bracket
Equerre | 8318 42 45 |
| 13 = Achse
Shaft
Arbre | 8641 25 01 |
| 14 = Lager
Bearing
Palier | 8681 22 58 |
| 15 = Knopf
Knob
Bouton | 6328 10 44 |
| 16 = Achse
Shaft
Arbre | 8641 25 01 |
| 17 = Winkel
Bracket
Equerre | 8681 02 34 |
- 2) Touring 220 S
1) Touring 220 F



- | | |
|--|--|
| 1 = Gehäusefront
Cabinet front
Boitier front | 6136 09 38
2) 6136 08 87
1) 6136 09 53 |
| 2 = Gehäuserückteil
Cabinet rear side
Boitiere arriere | 6136 09 40
2) 6136 08 89
1) 6136 08 51 |
| 3 = Knopf
Knob
Bouton | 6328 10 45 |
| 4 = Lautsprechergrill
Loudspeakergrill
Grille haut-parleur | 6418 38 62
2) 6418 38 15
1) 6418 38 68 |
| 5 = Abdeckung
Cover
Couvercle | 8681 22 57 |
| 6 = Schriftzug
Name plate
Plaque d'enseigne | 6625 08 25
1) 6623 10 18 |
| 7 = Taste
Pushbutton
Bouton-poussoir | 6318 38 64 |
| 8 = Taste
Pushbutton
Bouton-poussoir | 6318 38 63 |
| 9 = Lautsprecher
Loudspeaker
Haut-parleur | 4311 92 69
2) 4311 93 22 |
| 10 = Teleskopantenne
Telescopic antenna
Antenne telescopique | 4471 90 03 |
| 11 = Lautsprechergrill
Loudspeakergrill
Grill haut-parleur | 6418 38 61
2) 6418 38 16
1) 6418 38 67 |
| 12 = Lautsprecher
Loudspeaker
Haut-parleur | 4311 93 30 |
| 13 = Fenster
Window
Fenetre | 6466 05 57 |
| 14 = Halter (LED)
Holder (LED)
Support | 8681 21 97 |
| 15 = A/W-Schalter
Record/Playback switch
Commutateur Enreg/Rep | 4112 87 91 |
| 16 = Netzkabel
Mains lead
Cable de Reseau | 4147 01 26 |
| 17 = Mikrofon (MC 301, 302)
Microphone | 4317 01 93 |
| 18 = Drehko
Capacitor
Condensateur variable | 3418 25 21 |
| 19 = Knopf
Knob
Bouton | 6328 10 46 |
| 20 = Tastatur
Pushbutton assy.
Clavier | 4112 93 91
1) 4112 93 90 |
| 21 = Taste
Pushbutton
Bouton-poussoir | 6318 38 65 |
| 22 = Fenster
Window
Fenetre | 6466 05 83
1) 6466 05 55 |
| 23 = Cassettenklappe
Cassette lid
Volet de cassette | 6136 09 41
2) 6136 08 39
1) 6136 08 52 |
| 24 = Winkel
Bracket
Equerre | 6318 42 44 |
| 25 = Skala
Dial
Cadran | 6466 56 83
2) 6466 05 56
1) 6462 56 88 |
- 2) Touring 220 S
1) Touring 220 F

MW	 459 kHz		TP 4	Max.	L 114, L 115	Max.	
FM	TP 7, 10,7 MHz		TP 5		L 105, L 116	Max., Sym.	
FM		IC 102, pin 6			R 144	38 kHz	TP 5 C 186
FM	TP 7 87,2 MHz		TP 8 (9)	Min.	L 107	Max.	
	108 MHz			Max.	C 117	"	
	90 MHz			90 MHz	L 103	"	
	106 MHz			106 MHz	C 109	"	
FM	TP 5 114 kHz		TP 6		L 117	Min.	
MW	 510 kHz		TP 4	Min.	L 113	Max.	
	1620 kHz			Max.	C 140	"	
	600 kHz			600 kHz	L 110	"	
	1400 kHz			1400 kHz	C 129	"	
SW 1	2,3 MHz			Min.	L 112	"	
	5,8 MHz			Max.	C 142	"	
	3 MHz			3 MHz	L 109	"	
	5,5 MHz			5,5 MHz	C 132	"	
SW 2	5,8 MHz			Min.	L 111	"	
	16,2 MHz			Max.	C 137	"	
	6,5 MHz			6,5 MHz	L 108	"	
	14,5 MHz			14,5 MHz	C 134	"	
FM					R 157, R 163	TUNING 	
	TP 7 94 MHz 1 mV > Min.			94 MHz		 Min.	
				94 MHz	R 157, R 163		
		Wow / Flutter					
			TP 10 (11)	10 kHz START		Max.	
						< 0,45%	
		TP 10 (11)		START		4,76 cm ± 3%	
TP 1 (2)				REC FERRIC	L 301	BEAT 2: 69 kHz ± 0,5 kHz BEAT 2: 66 kHz ± 1 kHz	
			TP 1 (2)	REC FERRIC	L 401, L 601	max. U (BEAT 1) = max. U (BEAT 2)	
					R 319, R 318	6,5 mV ± 0,2 mV	